

**WHAT IS CLAIMED IS:**

1. A hydraulic brake system for a vehicle comprising:  
a hydraulic pressure generating device for pressurizing brake fluid  
supplied from a reservoir to apply a brake pressure to a wheel cylinder in response  
to operation of a brake operating member;  
an auxiliary hydraulic pressure source having an accumulator and a  
hydraulic pump, the hydraulic pump pressurizing the brake fluid supplied from the  
reservoir to a predetermined level for generating a power hydraulic pressure;  
an output hydraulic pressure detecting means for continuously detecting  
an output hydraulic pressure of the accumulator of the auxiliary hydraulic pressure  
source;  
vehicle condition detecting means for continuously detecting an operating  
condition of the vehicle;  
driving condition setting means for setting a driving condition of the  
hydraulic pump based on the operating condition of the vehicle detected by the  
vehicle condition detecting means; and  
driving control means for controlling the hydraulic pump based on the  
driving condition of the hydraulic pump set by the driving condition setting means  
and the output hydraulic pressure of the accumulator of the auxiliary hydraulic  
pressure source.

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1           2.    The hydraulic brake system for a vehicle in accordance with  
2    Claim 1, wherein the driving condition setting means includes a vehicle stop  
3    judging means for judging whether or not the vehicle is stopped, the driving  
4    condition setting means setting the driving condition of the hydraulic pump so that  
5    the output hydraulic pressure of the auxiliary hydraulic pressure source is smaller  
6    when the stop judging means judges that the vehicle is stopped than the output  
7    hydraulic pressure when the stop judging means judges that the vehicle is running.

1           3.    The hydraulic brake system for a vehicle in accordance with  
2    Claim 1, wherein the vehicle condition detecting means includes an operation  
3    amount detecting means for detecting an operating amount of the brake operating  
4    member and deceleration detecting means for detecting a deceleration of the  
5    vehicle, the driving condition setting means judging occurrence of brake fade  
6    based on the operating amount detected by the operation amount detecting means  
7    and the deceleration detected by the deceleration detecting means, and the driving  
8    condition setting means setting the driving condition of the hydraulic pump so that  
9    the output hydraulic pressure of the auxiliary hydraulic pressure source is larger  
10   when the driving condition setting means judges the occurrence of brake fade than  
11   the output hydraulic pressure under normal braking operation.

1           4.    The hydraulic brake system for a vehicle in accordance with  
2    Claim 1, wherein the hydraulic pressure generating device includes a master

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3 cylinder and a hydraulic booster assisting operation of the master cylinder by  
4 using the power hydraulic pressure generated by the auxiliary hydraulic pressure  
5 source.

1 5. The hydraulic brake system for a vehicle in accordance with  
2 Claim 1, wherein the output hydraulic pressure detecting means includes a first  
3 pressure sensor for detecting the hydraulic pressure of the auxiliary hydraulic  
4 pressure source.

1 6. The hydraulic brake system for a vehicle in accordance with  
2 Claim 1, wherein the vehicle condition detecting means includes at least one of a  
3 wheel sensor detecting a wheel speed of the vehicle, a stroke sensor detecting a  
4 stroke amount of the brake operating member, a vehicle height sensor detecting a  
5 height of the vehicle, and a second pressure sensor detecting the brake pressure  
6 generated by the hydraulic pressure generating device.

1 7. The hydraulic brake system for a vehicle in accordance with  
2 Claim 2, wherein the vehicle condition detecting means includes an operation  
3 amount detecting means for detecting an operating amount of the brake operating  
4 member and deceleration detecting means for detecting a deceleration of the  
5 vehicle, the driving condition setting means judging an occurrence of brake fade  
6 based on the operating amount detected by the brake operation amount detecting

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hydraulic pressure  
hydraulic brake system  
primary hydraulic pressure  
the hydraulic pump  
hydraulic pump.

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9. A hydraulic brake system for a vehicle comprising:

- a hydraulic pressure generating device for pressurizing brake fluid supplied from a reservoir to apply a brake pressure to a wheel cylinder in response to an operation of a brake operating member;
- an auxiliary hydraulic pressure source having an accumulator and a hydraulic pump, the hydraulic pump pressurizing the brake fluid supplied from the reservoir to a predetermined level for generating a power hydraulic pressure;
- an output hydraulic pressure detecting means for continuously detecting the output hydraulic pressure of the accumulator of the auxiliary hydraulic pressure source;

5 an auxiliary hydraulic pressure source having an accumulator and a  
6 hydraulic pump, the hydraulic pump pressurizing the brake fluid supplied from the  
7 reservoir to a predetermined level for generating a power hydraulic pressure;  
8 an output hydraulic pressure detecting means for continuously detecting  
9 an output hydraulic pressure of the accumulator of the auxiliary hydraulic pressure  
10 source;

11 vehicle condition detecting means for continuously detecting at least one  
12 of a plurality of operating conditions of the vehicle, including whether the vehicle  
13 is in a stopped condition or a running condition, whether a vehicle load is greater  
14 than or less than a predetermined value, the absence or presence of an automatic  
15 braking condition, the absence or presence of a sudden breaking condition, and the  
16 absence or presence of a brake fade occurrence;

17 driving condition setting means which sets a first driving condition of the  
18 hydraulic pump when the vehicle condition detecting means detects at least one of  
19 the stopped condition of the vehicle, the vehicle load being less than the  
20 predetermined value, the absence of the automatic braking condition, the absence  
21 of the sudden breaking condition and the absence of brake fade occurrence, and  
22 sets a second driving condition higher than the first driving condition when the  
23 vehicle condition detecting means detects at least one of the running condition of  
24 the vehicle, the vehicle load being greater than the predetermined value, the  
25 presence of the automatic braking condition, the presence of the sudden breaking  
26 condition and the presence of brake fade occurrence; and

27 driving control means for controlling the hydraulic pump based on either  
28 the first or second driving condition set by the driving condition setting means and  
29 the output hydraulic pressure of the accumulator of the auxiliary hydraulic  
30 pressure source.

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1 11. The hydraulic brake system for a vehicle in accordance with  
2 Claim 9, wherein the hydraulic pressure generating device includes a master  
3 cylinder and a hydraulic booster assisting operation of the master cylinder by  
4 using the power hydraulic pressure generated by the auxiliary hydraulic pressure  
5 source.

1                    12. The hydraulic brake system for a vehicle in accordance with  
2                    Claim 9, wherein the output hydraulic pressure detecting means includes a first  
3                    pressure sensor for detecting the hydraulic pressure of the auxiliary hydraulic  
4                    pressure source.

1            13. The hydraulic brake system for a vehicle in accordance with  
2            Claim 9, wherein the vehicle condition detecting means includes at least one of a  
3            wheel sensor detecting a wheel speed of the vehicle, a stroke sensor detecting a

4 stroke amount of the brake operating member, a vehicle height sensor detecting a  
5 height of the vehicle, and a second pressure sensor detecting the brake pressure  
6 generated by the hydraulic pressure generating device.

1 14. The hydraulic brake system for a vehicle in accordance with Claim  
2 9, wherein the auxiliary hydraulic pressure source further includes an electric  
3 motor for driving the hydraulic pump and the accumulator is connected at an  
4 output side of the hydraulic pump.

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